PROGRAM MAINTENANCE MANUAL FOR MACCS DATA SYSTEM

VOLUME II: OPHRRS PROCEDURES

December 1974

Prepared for
COMMANDANT OF THE MARINE CORPS
DEPARTMENT OF THE NAVY
under Contract M00027-74-C-0099

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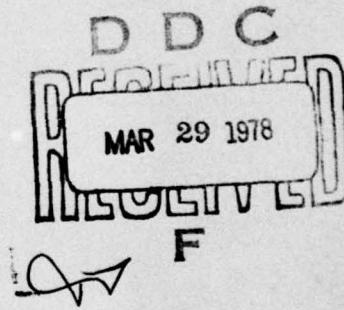MAR 29 1978
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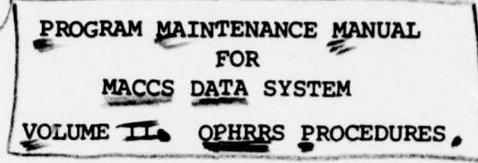
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JOB

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SECTION 1.   GENERAL DESCRIPTION

1.1 PURPOSE

The objective for writing this Program Maintenance
Manual for OPHRRS of MACCS DATA is to provide the maintenance
programmer personnel with the information necessary to effective-
ly maintain the program system.

1.2 SYSTEM APPLICATION

This procedure consists of two subprocedures, ADRECS and
ADHRRS. Subprocedure ADRECS, comprised of two IBM utility
routines, CDTAPE and MRGHRS, is run when new operate hour records
are added to the existing operate hours tape. Subprocedure
ADHRRS, consisting of a COBOL program, EDTAPE, is run when
additional hours are added to the records on the existing
operate hours tape.

1.3 EQUIPMENT ENVIRONMENT

Main computer: IBM System/370
Three tape drives
1 disk drive
1 card reader
1403 line printer

1.4 PROGRAM ENVIRONMENT

This procedure does not interact with any other procedures.

1.5 CONVENTIONS

Not applicable

SECTION 2.   SYSTEM DESCRIPTION

2.1 GENERAL DESCRIPTION

Subprocedure ADRECS accepts card data to be merged and sorted
with the existing operate hours tape. Subprocedure ADHRRS, which
is run once every three months, adds data to the existing operate
hours tape. Appendix A gives the flowchart for procedure OPHRRS.

2.2 DETAILED DESCRIPTION

Procedure: OPHRRS

Subprocedure: ADRECS
Programs: CDTAPE, MRGHRS
Subprocedure: ADHRRS
Program: EDTAPE

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2.2.1   CDTAPE

    A. Program Title: CDTAPE
    B. Function: Stores new operate hours data on tape
    C. Storage: 2K bytes core
    D. Files: One tape drive, one card reader
    E. Branching: N/A
    F. Entry: Load tapes on proper drives.
    G. Input: Cards
    H. Exit: CDTAPE is followed by MRGHRS.
    I. Linkage: N/A
    J. Output: Tape
    K. Response to errors: Reload.
    L. Restrictions: N/A
    M. Permanency: CDTAPE is the required initial program
                        run in procedure OPHRRS for data.

    N. Associated Programs: None
    O. Major Operations: New operate hours data is stored
                        from cards to tape.

2.2.2   MRGHRS

    A. Program Title: MRGHRS
    B. Function: Merges and sorts new operate hours data
                with old data
    C. Storage: Disk
    D. Files: 3 tape drives
    E. Branching: N/A
    F. Entry: MRGHRS follows CDTAPE.
    G. Input: Tapes
    H. Exit: Unload and label output tape.
    I. Linkage: N/A
    J. Output: Tape
    K. Response to errors: Check for bad tape. Ignore
                        warnings on disk overflow.
    L. Restrictions: N/A
    M. Permanency: MRGHRS follows CDTAPE.
    N. Associated Programs: None
    O. Major Operations: CDTAPE and MRGHRS produce an
                        updated operate hours tape for the
                        TYQ-1, TYQ-2, TYQ-3, and TPS-32
                        systems

2.2.3   EDTAPE

    A. Program Title: EDTAPE
    B. Function: Adds additional operate hours to the current
                master tape
    C. Storage: 18647 bytes core, disk
    D. Files: Two tape drives, card reader, line printer

E. Branching: N/A
F. Entry: Load tapes, card reader
G. Input: Tape, cards
H. Exit: Unload and label output tape; save printer
              output.
I. Linkage: N/A
J. Output: New tape, printer listing
K. Response to errors: Check end-of-file for tape and
                              card stream; reload.
L. Restrictions: N/A
M. Permanency: EDTAPE is the single program run for
                   procedure OPHRRS except as specified in
                   2.2.1M. above.
N. Associated Programs: None
O. Major Operations: EDTAPE produces an updated operate-
                          hours tape.

SECTION 3. INPUT/OUTPUT DESCRIPTIONS

3.1 GENERAL DESCRIPTION

    Input to procedure OPHRRS is a deck of data cards used
to produce an updated master tape containing operate-
hours data.

3.2 CHARACTERISTICS OF THE SYSTEM DATA

3.2.1 General Characteristics

    The input and output tapes of OPHRRS are unlabeled and
accessed only by tape drive.

3.2.2 Organization and Detailed Description

    A. Record Layout: See Appendix B.
    B. Sections: Each physical record contains 25 logical
                      records.
    C. Fields: See Appendix B.
    D. Tags/Labels: See Appendix B.
    E. Size: Each input record contains 80 bytes of
                  alphameric data.
    F. Range: N/A
    G. Expansion: N/A

3.3 TABLES

    This procedure contains no tables.

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SECTION 4. PROGRAM ASSEMBLING, LOADING, AND MAINTENANCE

No special procedures are associated with OPHRRS. Source listings are provided in Appendix C.
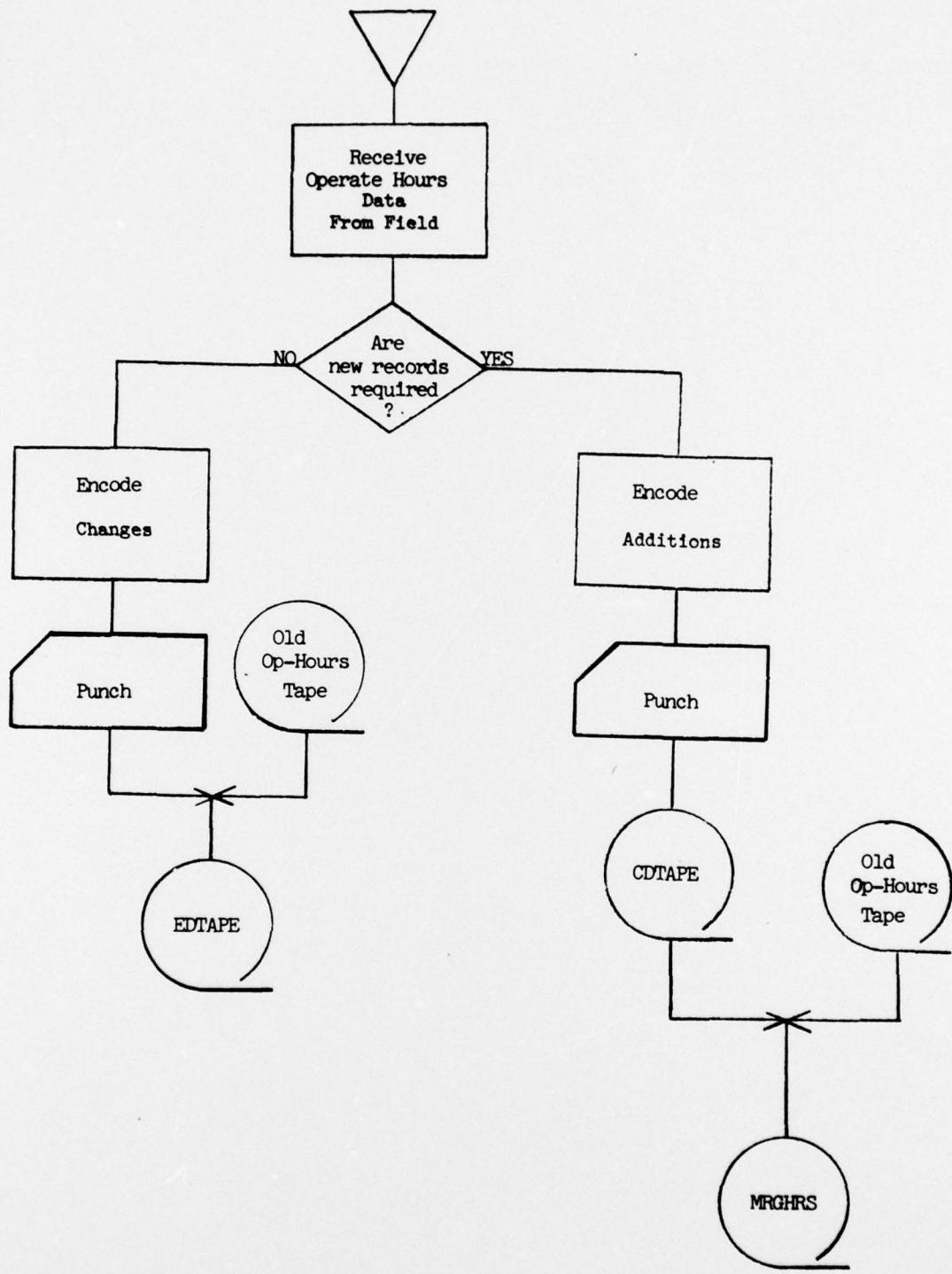
Appendix A. Logic Flow of Procedure OPHRRS

TAPE RECORD FORMAT

FILE NAME ___OPHRRS___   RECORD LENGTH __80__   PAGE ___ OF ___ DATE ___

FILE NUMBER _____   BLOCKING FACTOR __25__

PARITY [X] EVEN [ ] ODD
GAP   [X] 3/4 " [ ] ____

PAD W/9's [ ] YES [X] NO
TAPE MARK [X] YES [ ] NO

HEADER   STANDARD [ ] NON-STANDARD [ ] NONE [X]
TRAILER STANDARD [ ] NON-STANDARD [ ] NONE [X]

REMARKS: * Enter A if 1966, 1967, 1968
             B if 1969, 1970, 1971
             Enter C if 1972, 1973, 1974
             Enter D if 1975, 1976, 1977

S Q D N	GROUP	GROUP S/N	ACCEPTANCE Date Mo Da Yr	Hours	HOURS PER QUARTER			
					1	2	3	4

HOURS PER QUARTER — 1 2 3 4
PER QUARTER — 2 3 4
HOURS

5 10 15 20 25 30 35 40
45 50 55 60 65 70 75 80
85 90 95 100 105 110 115 120
125 130 135 140 145 150 155 160
165 170 175 180 185 190 195 200

DPD - 40   8 - 16 - 66

Appendix B

B-1

OPHRRS SOURCE LISTINGS

APPENDIX C

C-1

```
// JOB 1302-01 CDTAPE CARD-TAPE UTILITY (80/20G0)          CRD  292
// ASSGN SYS005,X'292'
// ASSGN SYS004,X'00C'
// UPSI 00100000
// EXEC CDTP
// UCT TP,FF,A=(80,80),B=(80,2000),I,OR,R)
// END
/*
/&
```

C-1 CDTAPE

```
// JOB 1302-01 MRGHRS MERGE NEW OPERATE HOURS DATA WITH OLD DATA          90,91 93
// ASSGN SYS002,X'290'
// ASSGN SYS003,'291'
// ASSGN SYS001,X'293'
// ASSGN SYS004,X'131'
// DLBL SORTKK1,00
// EXTENT SYS004,999999,1,0,100,2000
// EXEC SORT
SORT FIELDS=(1,5,A,80,1,A),FORMAT=BI,WORK=1,FILES=2
RECORD TYPE=F,LENGTH=80
  INPFIL BLKSIZE=2000
  OUTFIL BLKSIZE=2000
  OPTION LABEL=(U,U,U)
  END
/*
/&
```

C-2 MRGHRS

```
// JOB 1302-01 EDTAPE MAKE CORRECTIONS
// OPTION LINK,NODUMP,NOXREF,NOLISTX
// ASSGN SYS004,X'130'
// EXEC FCCBOL
       IDENTIFICATION DIVISION.
       PROGRAM-ID. EDIT69.
       REMARKS. UPDATE AVCAL FILE USING CARDS WITH TAPE RECORD
                NUMBERS IN COLUMNS 1-5, BEGINNING COLUMN NUMBERS IN
                COLUMNS 6-7, ENDING COLUMN NUMBERS IN COLUMNS 8-9,
                AND NEW DATA FOR THOSE COLUMNS IN COLUMNS 10-60.
       ENVIRONMENT DIVISION.
       INPUT-OUTPUT SECTION.
       FILE-CONTROL.
           SELECT WORKFILE ASSIGN TO SYS001-DA-2314-S-SORTWK1.
           SELECT CRD ASSIGN TO SYS004-UR-2540R-S.
           SELECT REC3IN ASSIGN TO SYS011-UT-2400-S-AVINP.
           SELECT REC3OUT ASSIGN TO SYS012-UT-2400-S-AVOUT.
       DATA DIVISION.
       FILE SECTION.
       SD WORKFILE DATA RECORD IS SRTREC, LABEL RECORDS ARE STANDARD).
       01 SRTREC.
           02 CARDRECNO PIC S9(7), USAGE COMPUTATIONAL-3.
           02 SRTBEGCOL PIC S9(2), USAGE COMPUTATIONAL-3.
           02 SRTENDCOL PIC S9(3), USAGE COMPUTATIONAL-3.
           02 SRTDAT4.
               03 SRTCHAR OCCURS 71 TIMES, INDEXED BY SRTNDX, PIC X(1).
       FD CRD LABEL RECORDS ARE OMITTED, DATA RECORD IS CARD-IMAGE.
       01 CARD-IMAGE.
           02 FILLER PIC X(80).
       FD REC3IN LABEL RECORDS ARE OMITTED, DATA RECORD IS INREC,
           BLOCK CONTAINS 25 RECORDS.
       01 INREC.
           02 FILLER PIC X(80).
       FD REC3OUT LABEL RECORDS ARE OMITTED, DATA RECORD IS OUTREC,
           BLOCK CONTAINS 25 RECORDS.
       01 OUTREC.
           02 OUTCHAR OCCURS  80 TIMES, INDEXED BY OUTNDX, PIC X(1).
       WORKING-STORAGE SECTION.
       77 ENDTEMP PIC S999, USAGE COMPUTATIONAL, SYNC.
       77 TAPERECNO PIC S9(7), USAGE COMPUTATIONAL-3, VALUE 0.
       77 DIFF PIC S9(3), USAGE COMPUTATIONAL-3.
       77 ENO-IND PIC X, VALUE 'C'.
       77 OPRECNO PIC S9(7), USAGE COMP-3, VALUE 0.
       01 UPDATE-CARD.
           02 12COLS.
               03 NCHAR OCCURS  9 TIMES INDEXED BY UPDNDX, PIC X(1).
           C2 3FIELDS REDEFINES 12COLS.
               03 UPD-REC PIC 9(5).
               03 UPD-BEG PIC 9(2).
               03 UPD-END PIC 9(2).
           02 UPD-DATA.
               03 UFD-CHAR PIC X(71).
       PROCEDURE DIVISION.
           OPEN INPUT REC3IN, CRD, OUTPUT REC3OUT.
           SORT WORKFILE ASCENDING KEY CARDRECNO, INPUT PROCEDURE
           READ-CARDS, OUTPUT PROCEDURE UPDATE-TAPE.
```

C-3 EDTAPE

C-4

```
        CLOSE REC3IN, REC3OUT.
        STOP RUN.
    READ-CARDS SECTION.
    GET-CRD.
        READ CRD INTO UPDATE-CARD AT END GO TO LAST-CRD.
        PERFORM TEST-CHAR THRU TEST-XIT VARYING UPDNDX FROM 1 BY 1
            UNTIL UPDNDX GREATER THAN 9.
    CHECK-FLD1.
        MOVE UPD-REC TO CARDRECNO.
        IF CARDRECNO = 0 GO TO ERR.
        MOVE UPD-BEG TO SRTBEGCOL.
        IF SRTBEGCOL = 0 OR SRTBEGCOL GREATER THAN  80 GO TO ERR.
        MOVE UPD-END TO SRTENDCOL.
        IF SRTENDCOL = 0 OR SRTENDCOL GREATER THAN  80 GO TO ERR.
        SUBTRACT SRTBEGCOL FROM SRTENDCOL GIVING DIFF.
        IF DIFF LESS THAN 0 OR DIFF GREATER THAN 71 GO TO ERR.
        MOVE UPD-CHAR TO SRTCATA.
        RELEASE SRTREC.
        GO TO GET-CRD.
    ERR.
        DISPLAY '  ***     ERROR  ', CARD-IMAGE.
        GO TO GET-CRD.
    LAST-CRD.
        CLOSE CPD.
    EXIT-READ.
        EXIT.
    TEST-CHAR SECTION.
        IF NCHAR (UPDNDX) = ' ' MOVE '0' TO NCHAR (UPDNDX)
            GO TO TEST-XIT.
        IF NCHAR (UPDNDX) LESS THAN '0' OR NCHAR (UPDNDX) GREATER
            THAN '9' GO TO ERR.
    TEST-XIT.
        EXIT.
    UPDATE-TAPE SECTION.
        RETURN WORKFILE RECORD AT END STOP RUN.
    GET-TAPE.
        READ REC3IN INTO OUTREC AT END GO TO LAST-REC.
        ADD 1 TO TAPERECNO.
    COMP-RECNO.
        IF CARDRECNO LESS THAN TAPERECNO GO TO GET-SRTREC.
        IF CARDRECNO = TAPERECNO GO TO UPDATE-RECORD.
        IF UPD-BEG = '80' AND UPD-END = '80' AND UPD-CHAR = SPACES
            GO TO GET-TAPE.
        WRITE OUTREC.
        ADD 1 TO CPRECNO.
        GO TO GET-TAPE.
    UPDATE-RECORD.
        MOVE SRTENDCOL TO ENDTEMP.
        SET SRTNDX TO 1.
        PERFORM MOVECHAR THRU EXIT-MOVE VARYING OUTNDX FROM
            SRTBEGCOL BY 1 UNTIL OUTNDX GREATER THAN ENDTEMP.
    GET-SRTREC.
        RETURN WORKFILE RECORD AT END MOVE '1' TO END-IND, MOVE
            9999999             TO CARDRECNO.
        GO TO COMP-RECNO.
    LAST-REC.
```

C-5

```
        DISPLAY SPACES.
        DISPLAY TAPERECNO, '  RECORDS INPUT'.
        DISPLAY CPRECNO, '  RECORDS OUTPUT'.
        IF END-IND = '1' GO TO EXIT-UPD.
        DISPLAY SPACES.
    NXT-REC.
        DISPLAY ' *** NO RECORD ', CARORECNO.
        RETURN WORKFILE RECORD AT END GO TO EXIT-UPD.
        GO TO NXT-REC.
    EXIT-UPD.
        EXIT.
    MOVECHAR SECTION.
        MOVE SRTCHAR (SRTNDX) TO OUTCHAR (OUTNDX).
        SET SRTNDX UP BY 1.
    EXIT-MOVE.
        EXIT.

/*
 ENTRY
// EXEC LNKEDT
// ASSGN SYS001,X'130'
// DLBL SORTWK1,,0
// EXTENT SYS001,111111,1,0,3280,600
// EXEC
/*
/&
```

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